ANNEX D7 THERMAL OXIDIZER, LANDFILL GAS FLARE AND LANDFILL GAS GENERATOR STACK EMISSION MONITORING RESULTS

TABLE D7.1 THERMAL OXIDISER STACK EMISSION MONITORING RESULTS

Parameters	Monitoring Results
NO_2	1.23 gs^{-1}
CO	0.02 gs^{-1}
SO_2	<0.01 gs^{-1}
Benzene	<2.0 x 10^{-4} gs^{-1}
Vinyl chloride	<1.2 x 10^{-4} gs^{-1}
Exhaust gas velocity	9.3 ms^{-1}

TABLE D7.2 THERMAL OXIDISER STACK CONTINUOUS MONITORING RESULTS

Date	Gas Combustion Temperature (°C)	Exhaust Temperature (K)	Exhaust Gas Velocity (ms^{-1}) [(a)]
1 Mar 25	901	1196	9.3
2 Mar 25	898	1194	
3 Mar 25	906	1177	
4 Mar 25	899	1207	
5 Mar 25	906	1194	
6 Mar 25	902	1183	
7 Mar 25	897	1184	
8 Mar 25	896	1177	
9 Mar 25	901	1189	
10 Mar 25	897	1191	
11 Mar 25	901	1196	
12 Mar 25	900	1202	
13 Mar 25	902	1199	
14 Mar 25	902	1195	
15 Mar 25	904	1183	
16 Mar 25	904	1184	
17 Mar 25	901	1186	
18 Mar 25	904	1200	
19 Mar 25	901	1201	
20 Mar 25	900	1199	
21 Mar 25	899	1198	
22 Mar 25	901	1199	
23 Mar 25	901	1202	
24 Mar 25	904	1192	
25 Mar 25	902	1206	
26 Mar 25	904	1206	
27 Mar 25	900	1193	
28 Mar 25	901	1202	
29 Mar 25	902	1176	
30 Mar 25	902	1198	
31 Mar 25	Under Maintenance		
Average	901	1194	-
Min	896	1176	-
Max	906	1207	-

Notes:

(a) The exhaust gas velocity was calculated based on the cross-section area of the stack and the gas flow and combustion temperature data measured during the stack emission monitoring.

TABLE D7.3 LANDFILL GAS FLARE STACK EMISSION MONITORING RESULTS

Parameters	Monitoring Results
NO_2	0.02 gs^{-1}
CO	<0.01 gs^{-1}
SO_2	0.01 gs^{-1}
Benzene	<1.42 x 10^{-4} gs^{-1}
Vinyl chloride	<1.14 x 10^{-4} gs^{-1}
Exhaust gas velocity	8.2 ms^{-1}

TABLE D7.4 LANDFILL GAS FLARE STACK CONTINUOUS MONITORING RESULTS

Date	Gas Combustion Temperature (°C)	Exhaust Temperature (K)	Exhaust Gas Velocity (ms^{-1}) [a]	Operation Status
Flare 1 – F601				
1 Mar 25	915	1128		In Operation
2 Mar 25	904	1110		In Operation
3 Mar 25	893	1116		In Operation
4 Mar 25	870	1133		In Operation
5 Mar 25	874	1117		In Operation
6 Mar 25	896	1132		In Operation
7 Mar 25	879	1125		In Operation
8 Mar 25	902	1110		In Operation
9 Mar 25	893	1118		In Operation
10 Mar 25	913	1112		In Operation
11 Mar 25	872	1106		In Operation
12 Mar 25	913	1103		In Operation
13 Mar 25	920	1112		In Operation
14 Mar 25	889	1124		In Operation
15 Mar 25	881	1125		In Operation
16 Mar 25	910	1125	8.2	In Operation
17 Mar 25	911	1127		In Operation
18 Mar 25	907	1120		In Operation
19 Mar 25	875	1109		In Operation
20 Mar 25	889	1131		In Operation
21 Mar 25	904	1132		In Operation
22 Mar 25	897	1111		In Operation
23 Mar 25	877	1130		In Operation
24 Mar 25	907	1107		In Operation
25 Mar 25	879	1132		In Operation
26 Mar 25	877	1120		In Operation
27 Mar 25	874	1125		In Operation
28 Mar 25	872	1122		In Operation
29 Mar 25	915	1133		In Operation
30 Mar 25	918	1125		In Operation
31 Mar 25	917	1105		In Operation
Average	895	1120	-	
Min	870	1103	-	
Max	920	1133	-	

Date	Gas Combustion Temperature (°C)	Exhaust Temperature (K)	Exhaust Gas Velocity (ms^{-1}) [a]	Operation Status
Flare 2 – F602				
1 Mar 25	893	1120		In Operation
2 Mar 25	912	1120		In Operation
3 Mar 25	917	1119		In Operation
4 Mar 25	914	1134		In Operation
5 Mar 25	924	1130		In Operation
6 Mar 25	888	1143		In Operation
7 Mar 25	886	1138		In Operation
8 Mar 25	908	1113		In Operation
9 Mar 25	925	1132		In Operation
10 Mar 25	889	1133		In Operation
11 Mar 25	915	1127		In Operation
12 Mar 25	889	1120		In Operation
13 Mar 25	887	1130		In Operation
14 Mar 25	888	1138		In Operation
15 Mar 25	930	1114		In Operation
16 Mar 25	906	1127	8.2	In Operation
17 Mar 25	903	1138		In Operation
18 Mar 25	912	1132		In Operation
19 Mar 25	895	1141		In Operation
20 Mar 25	911	1129		In Operation
21 Mar 25	883	1114		In Operation
22 Mar 25	921	1139		In Operation
23 Mar 25	899	1127		In Operation
24 Mar 25	905	1136		In Operation
25 Mar 25	911	1124		In Operation
26 Mar 25	928	1114		In Operation
27 Mar 25	922	1116		In Operation
28 Mar 25	889	1136		In Operation
29 Mar 25	924	1137		In Operation
30 Mar 25	927	1122		In Operation
31 Mar 25	922	1140		In Operation
Average	907	1129	-	
Min	883	1113	-	
Max	930	1143	-	

Notes:

(a) The exhaust gas velocity was calculated based on the cross-section area of the stack and the gas flow and combustion temperature data measured during the stack emission monitoring.

TABLE D7.5 LANDFILL GAS GENERATOR STACK EMISSION MONITORING RESULTS

Parameters	Monitoring Results
NO_2	0.103 gs^{-1}
CO	1.014 gs^{-1}
SO_2	0.002 gs^{-1}
Benzene	7.9×10^{-5} gs^{-1}
Vinyl chloride	$<1.06 \times 10^{-5}$ gs^{-1}
Exhaust gas velocity	10.1 ms^{-1}

TABLE D7.6 LANDFILL GAS GENERATOR STACK CONTINUOUS MONITORING RESULTS

Date	Exhaust Temperature (K)	Exhaust Gas Velocity (ms^{-1}) [(a)]	Operation Status
ENGA			
1 Mar 25	-	10.1	Under Maintenance
2 Mar 25	-		Under Maintenance
3 Mar 25	-		Under Maintenance
4 Mar 25	-		Under Maintenance
5 Mar 25	-		Under Maintenance
6 Mar 25	-		Under Maintenance
7 Mar 25	-		Under Maintenance
8 Mar 25	-		Under Maintenance
9 Mar 25	-		Under Maintenance
10 Mar 25	-		Under Maintenance
11 Mar 25	-		Under Maintenance
12 Mar 25	-		Under Maintenance
13 Mar 25	871		In Operation
14 Mar 25	876		In Operation
15 Mar 25	878		In Operation
16 Mar 25	869		In Operation
17 Mar 25	870		In Operation
18 Mar 25	875		In Operation
19 Mar 25	868		In Operation
20 Mar 25	870		In Operation
21 Mar 25	875		In Operation
22 Mar 25	871		In Operation
23 Mar 25	874		In Operation
24 Mar 25	872		In Operation
25 Mar 25	873		In Operation
26 Mar 25	877		In Operation
27 Mar 25	873		In Operation
28 Mar 25	877		In Operation
29 Mar 25	878		In Operation
30 Mar 25	870		In Operation
31 Mar 25	877		In Operation
Average	874	-	
Min	868	-	
Max	878	-	

Date	Exhaust Temperature (K)	Exhaust Gas Velocity (ms^{-1}) [a]	Operation Status
ENGB			
1 Mar 25	870	10.1	In Operation
2 Mar 25	877		In Operation
3 Mar 25	873		In Operation
4 Mar 25	875		In Operation
5 Mar 25	868		In Operation
6 Mar 25	873		In Operation
7 Mar 25	868		In Operation
8 Mar 25	870		In Operation
9 Mar 25	872		In Operation
10 Mar 25	875		In Operation
11 Mar 25	869		In Operation
12 Mar 25	876		In Operation
13 Mar 25	875		In Operation
14 Mar 25	872		In Operation
15 Mar 25	-		Under Maintenance
16 Mar 25	-		Under Maintenance
17 Mar 25	-		Under Maintenance
18 Mar 25	868		In Operation
19 Mar 25	871		In Operation
20 Mar 25	-		Under Maintenance
21 Mar 25	-		Under Maintenance
22 Mar 25	-		Under Maintenance
23 Mar 25	-		Under Maintenance
24 Mar 25	869		In Operation
25 Mar 25	-		In Operation
26 Mar 25	-		In Operation
27 Mar 25	-		In Operation
28 Mar 25	-		In Operation
29 Mar 25	-		Under Maintenance
30 Mar 25	-		Under Maintenance
31 Mar 25	-		Under Maintenance
Average	872	-	
Min	868	-	
Max	877	-	

Notes:

(a) The exhaust gas velocity was calculated based on the cross-section area of the stack and the gas flow and combustion temperature data measured during the stack emission monitoring.